

REMARKS

Claims 1-17 are pending in this application. Claims 9-17 have been withdrawn from consideration as being drawn to a non-elected invention. Claims 1-8 have been rejected.

Claims 1, 3, 4 and 7 have been amended to more clearly define the invention. Claims 6 and 8, have been canceled without prejudice or disclaimer. No new matter has been added.

In view of the amendments to the claims and the remarks set forth below, further and favorable consideration is respectfully requested.

I. At page 3, paragraph 6 of the Office Action, Claims 1 and 8 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite.

The Examiner states that claim 1 is indefinite in reciting "associated type thickener" because the term fails to specifically point out what is encompassed by the scope of the claim, and that claim 8 is indefinite because it is not known what is meant by "terminal polyoxyalkylene glycol." In view of the following, this rejection is believed to be overcome.

Claim 8 has been canceled without prejudice or disclaimer. Claim 1 has been amended to replace the terminology "associated type thickener" with the terminology "associative type thickener."

It is submitted that the terminology "associative type thickener" is an art-recognized term, and is clearly understood by the skilled artisan.

Submitted herewith please find: (1) pages 67, and 78-79 of "Handbook of Coatings Additives, 1987, (2) Catalog of "Witcobond W-293", (3) U.S. Pat. No: 6,342,556, and (4) a print out of internet site <http://www.rheological.com/optiflo.shtml>.

As can be seen on page 67 of the noted Handbook, the term "associative thickener" connotes thickeners that give paints better rheology properties, improved flow and leveling, by a thickening mechanism called association thickening. Pages 78-79 state that the advantage of "associative-type thickeners" in controlling rheology of aqueous systems is in improving the viscosity of formulations that are subjected to high rates of shear.

Applicant's note that the term "associative type thickener is also used in U.S. Patent No: 6,342,556, in Schipper et al., cited by the Examiner, and in the noted web cite.

Claim 8 has been canceled without prejudice or disclaimer. Claim 1 has been amended to incorporate the limitations of canceled claim 8.

Specifically, claim 1 has been amended to replace the language "... (B) a one terminal polyoxyalkylene glycol having at least 50% by weight or more of a repeating unit of ethylene oxide" with "a polyoxyalkylene glycol monoalkylether wherein the polyoxyalkylene glycol component comprises at least 50% by weight or more of a repeating unit of ethylene oxide".

In view of the evidence submitted herewith, the amendments to the claims and the remarks set forth above, it is submitted that claim 1 is clear and definite within the meaning of 35 USC § 112, second paragraph. Accordingly, the Examiner is respectfully requested to withdraw this rejection.

II. At page 4, paragraph 8 of the Office Action, Claims 1-3 and 9 are rejected under 35 U.S.C. §103(a) as being unpatentable over Vogt et al. (U.S. Patent No. 6,040,493) in view of Asano et al. (U.S. Patent No. 5,151,240).

The Examiner states that it would have been obvious from Asano to use in the compositions of Vogt, the polyurethane latex having a coagulation temperature range of from 60°C to 90°C in order to produce a uniformly coated layer. A brief analysis of Asano and Vogt, is set forth below.

Vogt discloses a fabric/elastomer composite where the elastomer composition requires a water-borne polyurethane latex, an acid-generating chemical, a cloud point surfactant, and a thickener. The composition can be optionally cross-linked with a cross-linking agent.

Vogt discloses at column 1, lines 21-22 that the invention relates to a process for producing a fabric material including a print-pattern gradient stretch coagulated polyurethane where the fabric produced is an excellent, strong, elastomeric fabric.

Asano is directed to a leather-like material having excellent water vapor permeability and suppleness, and to its manufacture.

Asano discloses in the paragraph bridging columns 5 and 6 that suitable solvents for use in the invention include N,N-dimethylformamide, N, N-dimethyl acetoamide, dimethyl sulfoxide, tetramethyl urea, N-methyl pyrrolidone and that thinners can also be used including dioxane, methylethyl ketone, and tetrahydrofuran.

Asano does not teach or suggest the use of a water-borne polyurethane elastomer. In view of the following, this rejection is respectfully overcome.

Claim 8 has been canceled without prejudice or disclaimer. Claim 1 has been amended to include the limitations of claim 8, and to require that the associative type thickener has a hydrophobic group located at at least one terminal and also has a urethane bond in its molecular chain.

It is submitted that a *prima facie* case of obviousness has not been established because (a) there is no suggestion, motivation, or incentive, provided in either of Vogt or Asano to support the combination of references, and (b) assuming *arguendo* the combination proper, neither reference taken alone or together provide any motivation to modify their respectively disclosed compositions, to obtain the claimed combination.

(a) Specifically, Vogt **requires** that the polyurethane latex be a water-borne polyurethane latex. At column 4, lines 7-8, Vogt discloses that “the water-borne criteria is of utmost importance...” Asano is directed to a leather-like material produced using a polyurethane elastomer and organic solvents. Thus, the skilled artisan in view of Vogt would have no motivation to look to art utilizing organic solvents, since Vogt teaches that the water-borne criteria and the avoidance of organic solvents, is **critical**.

Further, Vogt is directed to a fabric/elastomer composite. Specifically, the fabric composite produced by Vogt, is a stretch coagulated polyurethane. Asano does not teach or suggest a stretch coagulated polyurethane. Rather, Asano is directed to a man-made leather which is useful for use in products including shoes, traveling cases, handbags, sporting goods, etc.

Thus, the skilled artisan in view of Vogt would have no motivation to look to prior art directed to non-elastomer composites, i.e., Asano, since Vogt requires that the composite be a fabric/elastomer composite including stretch coagulated polyurethane. Likewise, the skilled artisan in view of Asano, would have no motivation to look to prior art directed to stretch coagulated polyurethane, since Asano requires a composite useful in products exhibiting minimal stretch including for example shoes, handbags, and travel cases.

(b) Assuming *arguendo* the combination proper, neither Vogt nor Asano provide any motivation to modify their respective compositions to obtained the claimed combination.

Specifically, Vogt **requires** a water-borne polyurethane latex, thus there is no motivation in either Vogt or Asano to include the polyurethane latex of Asano in the composition of Vogt.

Assuming *arguendo* such motivation to modify is present, the claimed composition would not be obtained.

Vogt discloses, according to claim 1 thereof, an elastomer composition comprising (i) a water-borne polyurethane latex; (ii) an acid-generating chemical; (iii) a cloud point surfactant; (iv) a thickening agent; and (v) a cross-linking agent.

The water-borne polyurethane latex (i) may be represented by *Witcobond W-293*, as described in col. 4, lines 5-7. As is clear from Attachment 2, *Witcobond W-293* is an anionic water-borne polyurethane latex. Vogt utilizes the principle that this type of latex can be solidified by the action of the acid-generating chemical (salt) mixed therewith.

In contrast, the water-borne urethane resin in the present invention is a nonionic resin, which not only differs from Vogt in the ionic status of the resin, but also has a heat-sensitive coagulation capability due to the incorporation of the nonionic urethane resin which comprises (A) a polyoxyalkylene glycol comprising at least 50% by weight or more of a repeating unit of ethylene oxide and/or (B) a polyoxyalkylene glycol monoalkylether, a polyoxyalkylene glycol component of said polyoxyalkylene glycol monoalkylether comprising at least 50% by weight or more of a repeating unit of ethylene oxide, as recited in the amended claim 1.

In view of the above, it is submitted that a *prima facie* case of obviousness has not been established. Further, it is submitted that nothing in Vogt and Asano, taken alone or together, render the claimed invention obvious within the meaning of 35 USC § 103. Accordingly, the Examiner is respectfully requested to withdraw this rejection.

III. At page 5, paragraph 9 of the Office Action, claims 4 and 5 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Vogt et al as applied to claim 1 above and further in view of Stoy (U.S. Patent No. 5,741,828) or Wicks et al. (U.S. Patent No. 5,733,967).

The Examiner states that it would have been obvious to include the nonionic emulsifiers of Stoy or Wicks in the composition of Vogt, in order to obtain enhanced dispersion. A brief analysis of Stoy and Wicks, is set forth below. It appears that the Examiner may have intended to reject these claims over Vogt and Asano as applied to claim 1.

Stoy is directed to flexible hydrophobic composite coatings created as water-borne formulations including an aqueous emulsion or dispersion of an essentially hydrophobic elastomer

stabilized with suitable emulsifiers, and a solution or dispersion of a synthetic hydrophilic copolymer which is insoluble in water under ambient conditions, is soluble in one or more water-miscible solvents, or is swellable in water under ambient conditions.

Wicks is directed to aqueous polyurethane dispersions which include dispersions of polyurethanes containing hydantoin groups in an amount of 1 to 4 wt% based on resin solids.

Claims 4 and 5, are directly or indirectly dependent on claim 1. As discussed above, it is submitted that the combination of Vogt and Asano is improper, that even if proper there is no motivation to modify Vogt to include the latex of Asano, and even if such motivation were present, the presently claimed invention would not be obtained. Please see the arguments set forth above.

Since the urethane resins disclosed in Vogt are completely different from those in the present invention as discussed above, the skilled artisan would not have been motivated to combine Vogt with the other cited references, and even if they could, such a combination would still differ from the presently claimed invention.

Further, it is submitted that the combination of Vogt, Asano, Stoy and Wicks, is improper. Specifically, none of Vogt, Stoy or Wicks, provide any suggestion, incentive or motivation, to support the combination. Vogt requires the production of a fabric/elastomer composite including stretch coagulated polyurethane while Stoy and Wicks are directed to coatings which do not have these properties.

Assuming *arguendo* the combination proper, it is submitted that nothing in Stoy or Wicks, cures the deficiencies of Vogt and Asano.

In view of the above, it is submitted that a *prima facie* case of obviousness has not been established. Further, it is submitted that none of the applied references, taken alone or together, render the claimed invention obvious within the meaning of 35 USC § 103. Accordingly, the Examiner is respectfully requested to withdraw this rejection.

IV. At page 5, paragraph 10 of the Office Action, claims 6 and 7 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Vogt et al. as applied to claim 1 and further in view of Schipper et al. (U.S. Patent No. 6,579,932).

The Examiner states that it would have been obvious to the skilled practitioner to add to the composition of Vogt, the thickener of Schipper, for adjustment of viscosity to the desired level, thereby enhancing application of the dispersion as a coating. It appears that the Examiner may have intended to reject these claims over Vogt and Asano as applied to claim 1. A brief analysis of Schipper is set forth below.

Schipper is directed to an aqueous coating composition including a polyurethane/acrylate hybrid dispersion, a dispersion of a polyurethane resin with oxidatively drying groups, and optionally containing an emulsion of alkyd resin, for use as a translucent or opaque primer or topcoat, or as a clear coat in decorative applications.

Claim 6 has been canceled without prejudice or disclaimer. Claim 7 is dependent on claim 1. It is submitted that the combination of Vogt and Asano is improper, that even if proper there is

no motivation to modify Vogt to include the latex of Asano, and even if such motivation were present, the presently claimed invention would not be obtained. Please see the arguments set forth above.

Further, it is submitted that a *prima facie* case of obviousness has not been established because there is no motivation, suggestion, or incentive, supporting the combination of Vogt and Schipper.

Specifically, Vogt is directed to a stretch coagulated polyurethane while Schipper is directed to a coating composition which is hard and scratch-resistant. The skilled artisan in view of Vogt would have no motivation to look to art dealing with hard and scratch-resistant coating compositions, since Vogt requires a stretch coagulated polyurethane. Similarly, the skilled artisan in view of Schipper would have no motivation to look to Vogt, since Schipper requires a hard, scratch-resistant coating composition and Vogt is directed to a stretch coagulated polyurethane.

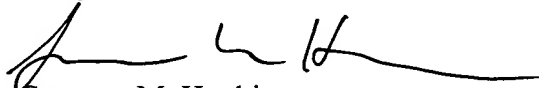
Schipper does not overcome the deficiencies of Vogt and Asano. It is submitted that nothing in the applied references taken alone or together, render the claimed invention obvious within the meaning of 35 USC § 103. Thus, the Examiner is respectfully requested to withdraw this rejection.

In view of the aforementioned amendments and accompanying remarks, claims, as amended, are in condition for allowance, which action, at an early date, is requested.

If, for any reason, it is felt that this application is not now in condition for allowance, the Examiner is requested to contact Applicants undersigned attorney at the telephone number indicated below to arrange for an interview to expedite the disposition of this case.

In the event that this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. Please charge any fees for such an extension of time and any other fees which may be due with respect to this paper, to Deposit Account No. 01-2340.

Respectfully submitted,
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Enclosures: Typical Witcobond aqueous urethane dispersion properties and applications